

In re Application of: Shlomo NAVARRO et al  
Serial No.: 10/816,861  
Filed: April 5, 2004  
Office Action Mailing Date: May 2, 2008

Examiner: Neil S. Levy  
Group Art Unit: 1615  
Attorney Docket: 25706

### **REMARKS**

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-60 are in this Application. Claims 13-48 and 50-60 have been withdrawn from consideration for being drawn to non-elected inventions. Claims 1-12 and 49 have been examined on the merits with a combination of *ar*-turmerone, a sesquiterpene alcohol, a turmeric oleoresin solid residue as the elected terpene species, paper as the elected substance species, and insect as the elected pest species. Claims 10-12 and 49 have been withdrawn from consideration for being drawn to non-elected species.

Claims 1-9 have been rejected under 35 U.S.C. § 102. Claims 1-9 have been rejected under 35 U.S.C. § 103. Claims 1-7, 9-12 and 49 have been amended herewith.

### **Amendments To The Claims**

#### ***35 U.S.C. § 112, First Paragraph Rejection***

The Examiner has rejected claims 1-9 under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for reducing insect penetration, does not reasonably provide enablement for prevention of penetration. The Examiner's rejection is respectfully traversed. Claims 1-7 and 9 have been amended.

Specifically, the Examiner has stated that "preventing" is an absolute, that no insect or pest of any species must be able to penetrate given this language and that the specification does not show 100 % failure to penetrate.

Applicant has chosen to amend the claims in order to better describe embodiments of the invention.

Hence, claim 1 has been amended to recite:

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*“A composition-of-matter comprising a packaging material and a pest control composition comprising at least one of a sesquiterpene alcohol, a sesquiterpene alcohol with ar-turmerone, a turmeric oleoresin solid residue, a turmeric oleoresin solid residue with a sesquiterpene alcohol, and a combination of ar-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue, said pest control composition being incorporated in or on said packaging material, wherein an amount of said sesquiterpene alcohol in said pest control composition is at least 10 % by weight, and wherein amounts of said ar-turmerone, said sesquiterpene alcohol and said turmeric oleoresin solid residue are selected such that said pest control composition exhibits insect repellant and antifeedant activities.”*

Claim 2 has been amended to recite:

*“The composition-of-matter of claim 1, wherein a ratio of said packaging material to said pest control composition is selected at a range such that said composition-of-matter exhibits insect repellant and antifeedant activities.”*

Support for the above amendments is found on page 4, lines 10-13 of the instant application, where there is recited a packaging material which includes a pest control composition comprising an effective amount of at least one compound selected from the group consisting of ar-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue, and on page 8, lines 9-11, which describe a pest control composition comprising at least 10 % of sesquiterpene alcohol.

Applicant wishes to note that as widely described in the instant application, the present inventors have surprisingly uncovered, upon extracting turmeric oil into fractions that contain ar-turmerone, sesquiterpene alcohols and a turmeric oleoresin solid residue (TORS), that sesquiterpene alcohols exhibit potent insect repellent as well as antifeedant (i.e., penetration prevention) effects (see, for example, page 32, lines 17-23 and Table 5, therein), and that turmeric oleoresin solid residue exhibits

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potent antifeedant effects (see, for example, page 35, Table 8, therein). Furthermore, it is described that the antifeedant effects of sesquiterpene alcohol and/or turmeric oleoresin solid residue can complement the repellent effect of *ar*-turmerone (see, for example, page 31, Table 5, therein).

As a result of the above amendments to claims 1 and 2, claims 9-12 have been amended so as to recite "*said packaging material*" instead of "*said substance*", and claims 3-7 have been amended so as to recite "*said pest control composition*" instead of "*said compound selected from the group consisting of ar-turmerone, a sesquiterpene alcohol, a turmeric oleoresin solid residue and said combination*".

Claims 3-7 have been further amended in order to improve the readability thereof. Thus, claim 3 has been amended to recite:

*"The composition-of-matter of claim 2, wherein said range is selected such that a strength of said packaging material with said pest control composition incorporated in or on said packaging material is not substantially different from that of an identical packaging material without said pest control composition."*

Claims 4-7 have been amended in a manner equivalent to the above amendment to claim 3.

As a result of the above amendments, none of claims 1-9 recite the term "preventing", thus rendering moot the Examiner's rejection.

Applicant therefore believes to have overcome the Examiner's rejection.

### ***35 U.S.C. § 102(b) Rejection (Nakamaru et al.)***

The Examiner has rejected claims 1-9 under 35 U.S.C. § 102(b), as being anticipated by Nakamaru et al., with evidence of Su et al. The Examiner's rejection is respectfully traversed. Claims 1-7 and 9 have been amended.

Specifically, the Examiner has stated that Nakamaru et al. teach packaged ozone decomposers with substances usable in producing packaging materials (i.e.,

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honeycomb-like paper) treated with a terpenoid, inclusive of turmerone and sesquiterpene alcohols, and that Su et al. teach repellency as the turmerone, exposed to air, becomes *ar*-turmerone.

As described hereinabove, claim 1 has been amended so as to recite:

*“A composition-of-matter comprising a packaging material and a pest control composition....”*

Applicant believes that the honeycomb-like paper taught by Nakamaru et al. would not be considered by one of ordinary skill in the art to be a “packaging material”, as the volume of the honeycomb-like paper consists predominantly of hexagonal holes, which according to the teachings of Nakamaru et al. are present in order to facilitate air flow through the paper (see, for example, Figure 2 of Nakamaru et al.). The honeycomb-like paper therefore lacks both mechanical strength and an ability to cover and shield a product being packaged.

Moreover, the honeycomb-like paper taught by Nakamaru et al. has substantial width (i.e., the hexagonal holes are long), resulting in a large volume, in order to provide for a sufficient area for reacting with ozone (see, for example, Figure 2 of Nakamaru et al.). In sharp contrast, packaging material is typically flat, so as not to occupy a substantial volume needlessly. While some packaging materials are bulky in order to provide physical protection (e.g., styrofoam), the structure of honeycomb-like paper can not provide physical protection, as it lacks mechanical strength, as discussed hereinabove.

As Nakamaru et al. do not teach a packaging material, it is irrelevant whether Su et al. teach that turmerone, exposed to air, becomes *ar*-turmerone.

Applicant therefore believes that claim 1, as well as claims 2-9 which depend directly or indirectly therefrom, are not anticipated by Nakamaru et al. and are therefore allowable.

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***35 U.S.C. § 102(b) Rejection (Whalon et al.)***

The Examiner has rejected claims 1-9 under 35 U.S.C. § 102(b), as being anticipated by Whalon et al. The Examiner's rejection is respectfully traversed. Claims 1-7 and 9 have been amended.

Specifically, the Examiner has stated that Whalon et al. teach packaging paper board coatings which incorporate turmerone.

Amended claim 1 recites a pest control composition comprising a sesquiterpene alcohol, a sesquiterpene alcohol with *ar*-turmerone, a turmeric oleoresin solid residue, a turmeric oleoresin solid residue with a sesquiterpene alcohol, and a combination of *ar*-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue. Thus, the composition comprises a sesquiterpene alcohol and/or turmeric oleoresin solid residue, with or without *ar*-turmerone.

In sharp contrast, Whalon et al. do not teach compositions that comprise, in addition to turmerone, either a sesquiterpene alcohol or turmeric oleoresin solid residue.

As discussed hereinabove, the present inventors have surprisingly uncovered that sesquiterpene alcohol and turmeric oleoresin solid residue exhibit antifeedant effects lacking in *ar*-turmerone, and moreover, that sesquiterpene alcohol exhibits a highly potent repellent activity. Hence, sesquiterpene alcohol and/or turmeric oleoresin solid residue, either alone or in combination with *ar*-turmerone, exhibits beneficial effects which cannot be obtained with *ar*-turmerone alone. Applicant therefore believes that amended independent claim 1, as well as claims 2-9 which depend directly or indirectly therefrom, are not anticipated by Whalon et al. and are therefore allowable.

***35 U.S.C. § 103(a) Rejection***

The Examiner has rejected claims 1-9 under 35 U.S.C. § 103(a) as being unpatentable over Whalon et al. in view of Antony and Su et al. The Examiner's rejection is respectfully traversed. Claims 1-7 and 9 have been amended.

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Specifically, the Examiner has stated that Whalon et al. teach the use of turmeric for pest control means, and that Antony et al. shows that turmeric contains turmerones, while Su et al. show that sesquiterpene alcohols are also present in turmeric.

Amended claim 1 recites a pest control composition comprising sesquiterpene alcohol and/or turmeric oleoresin solid residue, with or without *ar*-turmerone, as active ingredients, wherein an amount of the sesquiterpene alcohol in the pest control composition is at least 10 % by weight.

As argued hereinabove, the present inventors have surprisingly uncovered that sesquiterpene alcohol and/or turmeric oleoresin solid residue, either alone or in combination with *ar*-turmerone, exhibit beneficial effects which cannot be obtained with *ar*-turmerone alone.

None of the cited documents teaches sesquiterpene alcohol or turmeric oleoresin solid residue as active ingredients in a pest control composition.

Thus, Whalon et al. teach that turmerone is the active ingredient in turmeric (see the Table in column 5 of Whalon et al.), and does not mention either sesquiterpene alcohol or turmeric oleoresin solid residue, let alone teach that these have insect repellent or antifeedant properties.

Su et al. teach that turmerone and *ar*-turmerone are responsible for the repellent properties of turmeric (see, for example, page 291, Table 1, and page 292, paragraph bridging columns 1 and 2, in Su et al.). Su et al. neither teach nor suggest that sesquiterpene alcohols in turmeric have insect repellent or antifeedant properties. In addition, Su et al. do not mention turmeric oleoresin solid residue, let alone teach that turmeric oleoresin solid residue has insect repellent or antifeedant properties.

Antony does not mention insect repellent or antifeedant properties of turmeric, let alone teaches that sesquiterpene alcohols or turmeric oleoresin solid residue has either of these properties.

Applicant therefore strongly believes that one of skill in the art would not be motivated by Whalon et al., Su et al. or Antony, either alone or in combination, to

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prepare a pest control composition comprising at least 10 % by weight of sesquiterpene alcohol and/or turmeric oleoresin solid residue, either with or without *ar*-turmerone, for incorporation into or onto a packaging material.

In sharp contrast, the instant application teaches that sesquiterpene alcohols have strong insect repellent properties as well as substantial antifeedant properties (see, for example, page 32, line 22, to page 33, line 8, therein), and that turmeric oleoresin solid residue has strong antifeedant properties (see, for example, page 35, Table 8, therein).

Applicant therefore believes that claim 1, as well as claims 2-9 which depend directly or indirectly therefrom, are not rendered obvious over Whalon et al. in view of Antony and Su et al., and are therefore allowable.

#### ***Additional Amendments***

Claim 49 has been amended so as to be in independent form.

#### **Additional Remarks**

In the interest of candor and good faith, Applicant wishes to note that during a prosecution of a corresponding EP patent application, EP Patent Application No. 04101309.5, the Examiner has presented the following documents as affecting the patentability of the European Patent Application:

International Patent Application WO 00/00022, European Patent No. 1245152, Japanese Patent Application No. 5070388, French Patent No. 2697133, U.S. Patent No. 4,214,909, Japanese Patent Application No. 2003286111, European Patent Application No. 726074, Su et al. (1982), U.S. Patent No. 5,843,215 (Whalon et al.), International Patent Application WO 97/29638 and Japanese Patent No. 49006920.

Applicant strongly believes that the abovementioned documents do not affect the patentability of the claimed invention, particularly as now amended.

A Supplemental Information Disclosure Statement (IDS) including the European Examiner's objections is submitted herewith.

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In addition, in a prosecution of a corresponding IL patent application, IL 160950, the Examiner has stated that the application lacks unity, and upon Applicant's election of claims corresponding to claims 44-60 of the instant application for further examination, a notice of allowance was issued without citing any prior documents.

***Examination of Generic and Non-Elected Claims***

In view of the amendments made to the claims and the arguments recited herein it is believed that the claims are allowable with respect to the elected species and hence examination of claims 1-12 and 49 in their generic context and with respect to all the species recited therein is respectfully requested.

In view of the above amendments and remarks it is respectfully submitted that amended claims 1-7, claim 8 and amended claim 9 are now in condition for allowance. A prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

  
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**Enclosures:**

- Petition for Extension (Three Months)
- Supplemental IDS